

In the claims:13. (amended) A lighting apparatus comprising:a substrate;a plurality of light emitting diodes;a lamp driver circuit;a communications component;a first housing in which the substrate is located;wherein the substrate has a first circuit and a second circuit;wherein the lamp driver circuit is electrically connected to the first circuit and the second circuit;wherein a first portion of the plurality of light emitting diodes are connected to the first circuit and the first circuit can vary the intensity of the light emitted by the first portion of the plurality of light emitting diodes;wherein a second portion of the plurality of light emitting diodes are connected to the second circuit and the second circuit can vary the intensity of the light emitted by the second portion of the plurality of light emitting diodes;wherein the first portion of the plurality of light emitting diodes emits light of a first color and the second portion of the plurality of light emitting diodes emits light of a second color different from the first color;wherein the second color is generated by white light emitting diodes; andwherein the communications component can receive a control command for varying either the intensity of the first portion of the plurality of light emitting diodes or the second portion of the plurality of light emitting diodes to change the color temperature of the light emitted from the plurality of light emitting diodes.14. (amended) The lighting apparatus of claim 13 whereinthe first color is generated by yellow light emitting diodes.

15. (amended) The lighting apparatus of claim 13 wherein  
the first color is generated by amber light emitting diodes.
16. (amended) The lighting apparatus of claim 13 wherein  
the first color is generated by any of red, blue or green light emitting diodes.
17. (amended) The lighting apparatus of claim 14 wherein  
varying the light intensity emitted by the first portion or the second portion of the plurality  
of light emitting diodes changes the color temperature of the light projected on to a surface.
18. (amended) The lighting apparatus of claim 15 wherein  
varying the light intensity emitted by the first portion or the second portion of the plurality  
of light emitting diodes changes the color temperature of the light projected on to a surface.
19. (amended) The lighting apparatus of claim 16 wherein  
varying the light intensity emitted by the first portion or the second portion of the plurality  
of light emitting diodes changes the color temperature of the light projected on to a surface.
20. (amended) The lighting apparatus of claim 13 further comprising  
a second housing; and  
an electrical component located within the second housing.
21. (amended) The lighting apparatus of claim 20 wherein  
the electrical component is a processor.
22. (amended) The lighting apparatus of claim 20 further comprising wherein

the first housing can pan and tilt in relation to the second housing by a motor.

23. (amended) The lighting apparatus of claim 20 wherein

a position of the first housing relative to the second housing is caused by remote control.

24. (amended) The lighting apparatus claim 20 further comprising

a communications line and the communications line can provide a control signal.

25. (amended) The lighting apparatus of claim 13 further comprising

ventilation holes; and

wherein the ventilation holes are located in the substrate in proximity to any of the light emitting diodes of the first or second portions.

29. (amended) The lighting apparatus of claim 28 wherein

the variable filter is mounted to the first housing wherein each of the light emitting diodes of the first and second portions emit light in a direction passing through the filter.

30. (amended) The lighting apparatus of claim 29 wherein

a control command can vary the optical state of the filter.

32. (amended) The lighting apparatus of claim 31 wherein

the substrate is a curved substrate.

33. (amended) A lighting apparatus for projecting light onto a surface comprising:

a substrate;

a first housing, in which the substrate is located;

a plurality of light emitting diodes comprised of a first portion and a second portion each

of the first and the second portion emitting light having an intensity:

a variable filter;

a lamp driver;

a communications component;

wherein the substrate has a first circuit and a second circuit;

wherein the lamp driver is electrically connected to the first circuit and the second circuit;

wherein the first portion of the plurality of light emitting diodes are connected to the first circuit and the first circuit can vary the intensity of the light emitted by the first portion of the plurality of light emitting diodes;

wherein the second portion of the plurality of light emitting diodes are connected to the second circuit and the second circuit can vary the intensity of the light emitted by the second portion of the plurality of light emitting diodes;

wherein the first portion of the plurality of light emitting diodes emits light of a first color and the second portion of the plurality of light emitting diodes emits light of a second color different from the first color;

wherein the light emitted from the first portion and the second portion of the plurality of light emitting diodes is emitted through the variable filter; and

wherein the communications component can receive a control command for varying control information to the variable filter.

35. (amended) A lighting apparatus for projecting light onto a surface comprising:

a substrate;

a communications component;

first, second, third, fourth, fifth and sixth light emitting diodes each of which is fixed to the substrate;

a first housing wherein the substrate is located;

wherein each of the first, second, third, fourth, fifth and sixth light emitting diodes emits light having an intensity;

wherein the substrate has first, second, third, fourth, fifth and sixth circuits;

wherein the first light emitting diode is connected to the first circuit and the first circuit can vary the intensity of light emitted by the first light emitting diode;

wherein the second light emitting diode is connected to the second circuit and the second circuit can vary the intensity of light emitted by the second light emitting diode;

wherein the third light emitting diode is connected to the third circuit and the third circuit can vary the intensity of light emitted by the third light emitting diode;

wherein the fourth light emitting diode is connected to the fourth circuit and the fourth circuit can vary the intensity of light emitted by the fourth light emitting diode;

wherein the fifth light emitting diode is connected to the fifth circuit and the fifth circuit can vary the intensity of light emitted by the fifth light emitting diode;

wherein the sixth light emitting diode is connected to the sixth circuit and the sixth circuit can vary the intensity of light emitted by the sixth light emitting diode;

wherein each of the intensities of light of the first, second, third, fourth, fifth, and six light emitting diodes can be varied independently of each of the other intensities of light of the first, second, third, fourth, fifth, and sixth light emitting diodes;

wherein the first, second, third, fourth, fifth and sixth light emitting diodes emit light of first, second, third, fourth, fifth and sixth wavelengths, respectively;

and wherein the communications component can receive a control command for varying each of the intensities of light of the first, second, third, fourth, fifth and sixth light emitting diodes.

36. (amended) The lighting apparatus of claim 35 wherein

the first light emitting diode emits light of a first color;

the second light emitting diode emits light of a second color;

the third light emitting diode emits light of a third color; and  
the fourth light emitting diode emits light of a fourth color;  
the fifth light emitting diode emits light of a fifth color;  
the sixth light emitting diode emits light of a sixth color;  
and wherein the first, second, third, fourth, fifth and sixth colors are different.

39. (amended) The lighting apparatus of claim 37 wherein

the first housing can pan and tilt in relation to the second housing by a motor.

50. (amended) A lighting apparatus for projecting light onto a surface comprising:

a substrate;

first, second, third, fourth, fifth and sixth light emitting diodes, each of which is fixed to  
the substrate;

a first housing in which the substrate is located;

a communications component;

wherein each of the first, second, third, fourth, fifth and sixth light emitting diodes emit  
light having an intensity;

wherein the substrate has first, second, third, fourth, fifth and sixth circuits;

wherein the first light emitting diode is connected to the first circuit and the first circuit  
can vary the intensity of light emitted by the first light emitting diode;

wherein the second light emitting diode is connected to the second circuit and the  
second circuit can vary the intensity of light emitted by the second light emitting diode;

wherein the third light emitting diode is connected to the third circuit and the third circuit  
can vary the intensity of light emitted by the third light emitting diode;

wherein the fourth light emitting diode is connected to the fourth circuit and the fourth  
circuit can vary the intensity of light emitted by the fourth light emitting diode;

wherein the fifth light emitting diode is connected to the fifth circuit and the fifth circuit

can vary the intensity of light emitted by the fifth light emitting diode;

wherein the sixth light emitting diode is connected to the sixth circuit and the sixth circuit can vary the intensity of light emitted by the sixth light emitting diode;

wherein each of the light intensities of the first, second, third, fourth, fifth and six light emitting diodes can be varied independently of each of the other light intensities of the first, second, third, fourth, fifth, and sixth light emitting diodes;

and wherein the first, second, third, fourth, fifth and sixth light emitting diodes all emit light of a first color; and

wherein the communications component can receive a control command for varying each of the light intensities of each of the first, second, third, fourth, fifth and sixth light emitting diodes.

51. (amended) The lighting apparatus of claim 50 further comprising

a seventh light emitting diode which emits light having an intensity;

wherein the substrate has a seventh circuit;

wherein the seventh light emitting diode is connected to the seventh circuit;

wherein the seventh circuit can vary the intensity of light emitted by the seventh light emitting diode;

and wherein the seventh light emitting diode emits light of a second color different than the first color.

56. (amended) The lighting apparatus of claim 51 wherein

the intensity of the first color is varied to change the color temperature of the light projected onto the surface by the lighting apparatus.

57. (amended) The lighting apparatus of claim 51 wherein

the intensity of the second color is varied to change the color temperature of the light

projected onto the surface by the lighting apparatus.

60. (amended) The lighting apparatus of claim 58 wherein

the first housing can pan and tilt in relation to the second housing by a motor.

62. (amended) The lighting apparatus of claim 61

wherein a communications line is connected to the second housing.

63. (amended) The lighting apparatus of claim 50

further comprising ventilation holes and the ventilation holes are located in the substrate in proximity to any of the first, second, third, fourth, fifth, or sixth light emitting diodes.

67. (amended) The lighting apparatus of claim 65 wherein

any of the first, second, third, fourth, fifth or sixth light emitting diodes emit light in a direction passing through the filter.

73. (amended) A lighting device for projecting light onto a surface comprising:

a first housing;

the first housing comprising a substrate and a plurality of light emitting diodes;

wherein the substrate has a first circuit and a second circuit;

wherein a first portion of the plurality of light emitting diodes are connected to the first circuit and the first circuit can vary the intensity of light emitted by the first portion of the plurality of light emitting diodes;

wherein a second portion of the plurality of light emitting diodes are connected to the second circuit and the second circuit can vary the intensity of light emitted by the second



portion of the plurality of light emitting diodes;

wherein the first portion of the plurality of light emitting diodes emits light of a first color and the second portion of the plurality of light emitting diodes emits light of a second color different from the first color;

wherein the plurality of light emitting diodes have respective directions of light energy emission;

a second housing; and

a power applying component disposed in the second housing;

wherein the power applying component is electrically coupled to the light emitting diodes for applying power to the light emitting diodes; and

wherein the first housing is rotationally mounted to the second housing for revolving the first housing relative to the second housing to vary the direction of light energy emission relative to the second housing.

76. (amended) The lighting device of claim 73 further comprising

a yoke, wherein the yoke is mounted for rotation to the first housing;

wherein the first housing comprises a lamp housing;

wherein the yoke is mounted for rotation to the second housing;

wherein the first housing is rotated in relation to the second housing by a motor;

wherein the second housing comprises an electronics housing; and

the power applying component comprises an internal power supply.

77. (amended) The lighting device of claim 76 further comprising

a communications line and the communications line is connected to the second housing.

78. (amended) An apparatus comprising:

a housing;

a substrate disposed in the housing, the substrate having a plurality of individually controllable circuits; and

first, second, third, fourth, and fifth light emitting diodes respectively fixed to the circuits of the substrate for directing light from the housing;

wherein the first, second, third, fourth, and fifth light emitting diodes have respectively independently variable light intensities;

wherein the first, second, third, fourth, and fifth light emitting diodes emit light of first, second, third, fourth, and fifth wavelengths, respectively; and

wherein the first, second, third, fourth, and fifth wavelengths produce respectively different colors.

79. A lighting apparatus for projecting light onto a surface comprising:

a substrate;

a first housing in which the substrate is located;

a second housing;

a yoke;

a first, a second and a third light emitting diode, each of which is fixed to the substrate;

a communications component;

wherein each of the first, second and third light emitting diodes emits light having an intensity;

wherein the substrate has first, second, and third circuits;

wherein the first light emitting diode is connected to the first circuit and the first circuit can vary the intensity of light emitted by the first light emitting diode;

wherein the second light emitting diode is connected to the second circuit and the second circuit can vary the intensity of light emitted by the second light emitting diode;

wherein the third light emitting diode is connected to the third circuit and the third circuit can vary the intensity of light emitted by the third light emitting diode;

wherein each of the light intensities of the first, second and third light emitting diodes can be varied independently of each of the other light intensities of the first, second, and third light emitting diodes;

wherein the first light emitting diode emits light of a first color;

wherein the second light emitting diode all emits light of a second color;

wherein the third light emitting diode emits light of a third color;

wherein the communications component can receive a control command for varying either any of the light intensities of the first, second, and third light emitting diodes;

and wherein the first housing can be positioned in relation to the second housing by remote control.

80. The lighting apparatus of claim 79 wherein

the first color is green, the second color is red and the third color is blue.

81. The lighting apparatus of claim 79 wherein

the remote control of the first housing in relation to the second housing is obtained by a motor.

82. The lighting apparatus of claim 79 wherein

at least one of the first, second or third colors is a white color.